## Book Review

ROMOSER, W. S. 1973. The Science of Entomology. Macmillan Publishing Co., Inc., New York. Collier Macmillan Publishers, London. Collier-Macmillan Canada Ltd., Toronto. xi + 449 pages. $13.95. (Canada).

According to the preface, "this text has been written in response to the realization of the need for a broadly based treatment of general entomology." After reading this text I am convinced that such a need still exists – Romoser's text alone provides no adequate answer.

While general entomology courses are as varied as the instructors, surely a comprehensive course would include more taxonomy than the briefest description of major orders and more applied entomology than 9% (38 of 404 pp.) of actual text. Romoser's treatment of medical entomology is virtually non-existant (3 pp.)!

A glance at the Table of Contents reveals a curious imbalance. Part One, Structure and Function, consists of 9 chapters including The Integumentary System, The Alimentary, Circulatory, Ventilatory, and Excretory Systems, The Nervous, Endocrine, and Muscular Systems, Sensory Mechanisms, Locomotion, Behavior, Reproduction and Morphogenesis, and Insects and Their Environment for a total of 281 pages. Part Two, Unity and Diversity, contains 2 chapters, Evolution and Systematics and Survey of Class Insecta, a total of 85 pages. Part Three, Applied Aspects of Entomology with its single chapter, Applied Entomology, sports 38 pages. Except for a reasonable description of systematics, Parts Two and Three appear an afterthought to a morphology and physiology text.

Because he has no relief, the reader quickly adjusts to Romoser's flat, dry style. (How rapidly one becomes inured to sentences commencing with "The", "It is", "It has been", etc.!) The more wordy, less assertive passive voice predominates throughout to personify prolixity.

Part One on Structure and Function has merit. Romoser presents fact after fact well backed by description, examples, and illustrations. The introductory chapter lists sources of information on entomology, eg. textbooks, lectures, reference works, pamphlets. Such an elementary approach assumes that the reader has had virtually no experience in using the library. If this assumption were correct, then the remainder of the text is certainly too advanced for the student to whom the introduction reveals anything new.

Once past the introduction, chapters on structure and function offer good description. Excellent line drawings compensate for any weakness in verbal description. My chief complaint regarding the illustrations is that their often incomplete captions send a frustrated reader scurrying from text to diagram and back. Line drawings such as ovipositor modifications (Fig. 2-44), circulation patterns (Fig. 3-8), and Malpighian tubule-hindgut systems (Fig. 3-19) definitely enhance the text's value. As for the photomicrographs, many of the light microscope pictures have labels which are too small or do not contrast sufficiently with the background, eg. Figs. 3-4A, 3-5, and 4-10. Scanning electron micrographs, commendable by virtue of their presence, sometimes lose value because neither caption nor description orients the reader. For a novice the head of a spider bug (Fig. 2-28B) could be most confusing. Of 11 scanning electron micrographs present, 2 (Figs. 2-4B and 9-7C) clearly show scan lines, 2 (Fig. 5-2) demonstrate charging effects, and 5 exemplify classical faux pas in labeling techniques. Again, the labels are too small and lack contrast with background. Yet, scanning electron micrographs of the bee louse (Fig. 9-7) showing morphological relationships between louse claws and honey bee hairs are excellent.

One of the book's basic problems lies in its organization. Romoser renders intricate morphological description (the extent of which may be of questionable value in a general course), then many pages later proffers the physiology. Augmenting the sense of delay, some morphological adaptations are not supported by example. In the doldrums of dry, detailed description how refreshing would be a breath of why!

I found the sense organ chapter disappointing. Mechanoreceptors are not defined. Campaniform and placoid sensilla, vastly different, are confusingly mentioned together. Terminology is out of date. In comparison with the remainder of the text, this chapter seemed deficient in current references. Here Romoser provides a taste too vague to stimulate appetite for further knowledge.

On the other hand, the chapter on behavior presents a cohesive overview with sufficient specific examples to motivate the student to read some of the references mentioned. Certain behavioral aspects discussed such as location of food sources, oviposition, brood care, and behavioral periodicity are too often neglected in other texts.

In Part Two, Unity and Diversity, Romoser negates the value of his explanation of systematics and evolution by presenting only a survey of insect orders. This sketchy survey by its brevity alone fails to communicate but a flicker of insect diversity. A student equipped with Romoser's text could not identify an insect beyond the order level – and that without assistance of a key to orders.

Part Three on applied entomology is hardly worth mentioning. There are a few worthwhile sections on biological control including host resistance and genetic control. How any entomologist writing a general text could insert but 3 pages on medical entomology is beyond me.

In defense of Romoser's effort, his bibliography is recent and fairly comprehensive. One can quickly find pertinent references in areas outside of one's own field.

The ultimate question – Would I use this book in my own general course? The answer is no. It could be used to supplement another text such as Herbert H. Ross' A Textbook of Entomology, 3rd Edition (John Wiley & Sons, Inc., New York. 1965), but then, why bother?

Ruth Lynn Hooper
Department of Entomology
University of Alberta
Edmonton, Alberta T6G 2E3